CLAIMS

What is claimed is:

1. An apparatus for curing a floor coating, comprising:

a frame supported by two or more ground engaging support members; and

an ultraviolet radiation source coupled to the frame, wherein the ultraviolet radiation source comprises one or more lamps where each of the one or more lamps is operable to simultaneously emit at least two different wavelengths of ultraviolet radiation, and further wherein the ultraviolet radiation source is operable to consume power of no more than about 75 watts per inch of cured coating width.

2. The apparatus of claim 1, wherein the two or more ground engaging support members comprise wheels.

3. The apparatus of claim 1, wherein the ultraviolet radiation source is located forward of the two or more ground engaging support members during operation.

4. The apparatus of claim 1, further comprising a hood partially surrounding the ultraviolet radiation source, the hood operable to direct the two different wavelengths of ultraviolet radiation to a floor surface.

5. The apparatus of claim 4, wherein the hood comprises at least one surface of reflective material.

6. The apparatus of claim 1, wherein the ultraviolet radiation source is positioned such that a lowermost surface of the ultraviolet radiation source is suspended above the floor coating at a working height of about 4 inches to about 7 inches.

7. The apparatus of claim 1, wherein the ultraviolet radiation source is operable to consume power of about 25 to about 75 watts per inch of cured coating width.

8. The apparatus of claim 7, wherein the ultraviolet radiation source is operable to consume power of about 40 to about 60 watts per inch of cured coating width.

9. The apparatus of claim 1, further comprising a visual indicator associated with the ultraviolet radiation source, the visual indicator operable to indicate whether the one or more lamps is operational.

10. The apparatus of claim 1, wherein the ultraviolet radiation emitted by the one or more lamps is greater at the at least two different wavelengths than at wavelengths other than the at least two different wavelengths.

11. The apparatus of claim 1, further comprising a cordless, onboard power source operable to power the ultraviolet radiation source.

12. The apparatus of claim 1, wherein the apparatus is operable to receive power directly from a wall outlet.

13. An apparatus for curing a floor coating, comprising:

a frame supported by two or more ground engaging support members; and

an ultraviolet radiation source coupled to the frame, wherein the ultraviolet radiation source comprises one or more lamps where each of the one or more lamps is operable to simultaneously emit at least two different wavelengths of ultraviolet radiation, and further wherein a lowermost surface of the ultraviolet radiation source is suspended about 4 inches to about 7 inches above the floor coating.

14. The apparatus of claim 13, wherein the ultraviolet radiation source is operable to consume power of no more than about 75 watts per inch of cured coating width.

15. The apparatus of claim 14, wherein the ultraviolet radiation source is operable to consume power of about 25 to about 75 watts per inch of cured coating width.

16. The apparatus of claim 15, wherein the ultraviolet radiation source is operable to consume power of about 40 to about 60 watts per inch of cured coating width.

17. The apparatus of claim 13, wherein the one or more lamps comprises at least one self-ballasting lamp.

18. A machine operable for curing floor coatings applied to a floor surface, the machine comprising:

a frame supported by two or more ground engaging wheels;

a curing head coupled to the frame and located, when the machine is in an operating configuration, forward of an axis of rotation of the two or more ground engaging wheels; and

an ultraviolet radiation source associated with the curing head, the ultraviolet radiation source comprising one or more lamps, wherein each of the one or more lamps is operable to simultaneously emit at least two different wavelengths of ultraviolet radiation, and further wherein the ultraviolet radiation source is operable to consume power of no more than about 75 watts per inch of cured coating width.

19. The machine of claim 18, wherein a lowermost surface of at least one of the one or more lamps is located about 4 inches to about 7 inches above the floor surface.

20. The machine of claim 19, wherein the lowermost surface of the at least one of the one or more lamps is located about 5.5 inches above the floor surface.

21. The machine of claim 18, wherein the ultraviolet radiation source is operable to consume power of about 25 to about 75 watts per inch of cured coating width.

22. The machine of claim 21, wherein the ultraviolet radiation source is operable to consume power of about 40 to about 60 watts per inch of cured coating width.

23. The machine of claim 18, wherein each of the one or more lamps is operable to simultaneously emit a first wavelength of ultraviolet radiation between about 350 nanometers (nm) and about 380 nm and a second wavelength of ultraviolet radiation between about 240 nm and about 270 nm.

24. The machine of claim 23, wherein the first wavelength of ultraviolet radiation is about 365 nm and the second wavelength of ultraviolet radiation is about 254 nm.

25. The machine of claim 18, wherein the curing head comprises a hood partially surrounding the ultraviolet radiation source, and wherein the hood opens toward the floor surface.

26. The machine of claim 25, wherein the hood comprises one or more reflective interior surfaces operable to direct the at least two different wavelengths of ultraviolet radiation toward the floor surface.

27. The machine of claim 18, wherein the curing head further comprises a cooling apparatus.

28. The machine of claim 27, wherein the cooling apparatus comprises one or more fans.

29. The machine of claim 18, wherein the curing head further comprises at least one lamp indicator operable to indicate a status of at least one of the one or more lamps.

30. The machine of claim 18, further comprising adjustable skirt portions around at least a portion of a periphery of the curing head.

31. The machine of claim 18, wherein the two or more ground engaging wheels comprise two laterally opposing, freely rotating forward wheels, and at least one swiveling rear wheel.

32. The machine of claim 18, wherein the machine is propelled by operator force.

33. A method for applying a floor coating to a floor surface, the method comprising:

applying a liquid coating over the floor surface, the liquid coating being curable in response to application of at least two different wavelengths of ultraviolet radiation;

passing a source of ultraviolet radiation over the liquid coating applied over the floor surface, the source of ultraviolet radiation comprising one or more lamps, wherein each lamp of the one or more lamps is operable to simultaneously emit the at least two different wavelengths of ultraviolet radiation, and further wherein the

ultraviolet radiation source is operable to consume power of no more than about 75 watts per inch of cured coating width ; and

curing at least a portion of the liquid coating as the source of ultraviolet radiation passes over the liquid coating.

34. The method of claim 33, further comprising selecting the one or more lamps such that ultraviolet radiation emitted by the one or more lamps is greater at the at least two different wavelengths than at wavelengths other than the at least two different wavelengths.

35. The method of claim 33, wherein a lowermost surface of at least one of the one or more lamps is located about 4 inches to about 7 inches above the floor surface.

36. The method of claim 35, wherein the lowermost surface of the at least one of the one or more lamps is located about 5.5 inches above the floor surface.

37. The method of claim 33, wherein the ultraviolet radiation source is operable to consume power of about 25 to about 75 watts per inch of cured coating width.

38. The method of claim 37, wherein the ultraviolet radiation source is operable to consume power of about 40 to about 60 watts per inch of cured coating width.

39. The method of claim 33, further comprising preparing the floor surface prior to applying the liquid coating.

40. The method of claim 33, wherein the at least two different wavelengths of ultraviolet radiation comprise a first wavelength of between about 350 nanometers (nm) and about 380 nm and a second wavelength of between about 240 nm and about 270 nm.

41. The method of claim 33, wherein the method further comprises providing a machine for supporting the source or ultraviolet radiation.

42. The method of claim 33, further comprising curing at least a portion of uncured floor coating by application of ambient light.

43. An apparatus for curing a floor coating, comprising:

a frame supported by two or more ground engaging support members; and

an ultraviolet radiation source coupled to the frame, wherein the ultraviolet radiation source comprises one or more lamps where each of the one or more lamps is operable to simultaneously emit at least two different wavelengths of ultraviolet radiation, wherein the ultraviolet radiation emitted by each of the one or more lamps is greater at the at least two different wavelengths than at wavelengths other than the at least two different wavelengths.

44. The apparatus of claim 43, further wherein the ultraviolet radiation source is operable to consume power of no more than about 75 watts per inch of cured coating width.

45. The apparatus of claim 43, wherein the ultraviolet radiation source is positioned such that a lowermost surface of the ultraviolet radiation source is suspended above the floor coating at a working height of about 4 inches to about 7 inches.